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ABSTRACT

This paper examines potential roles vocational education could play to assist the military in meeting its training responsibilities within the context of three major military and training issues: survival of the All Volunteer Force, use of the Total Force Management concept, and demands of high technology. Discussion is divided into three sections. The background section provides descriptive data concerning involvement of vocational education students in the military and expands upon the three major military and training issues. The second section introduces possible roles that vocational education could play in assisting the military to meet its training responsibilities, including being sensitive to preenlistment needs, increasing occupational knowledge concerning a military career, developing lateral entry programs, providing surge training capacity, assisting in reservist training, and providing post-enlistment services and training and civil service personnel training. In the final section, implications of those roles for vocational education and the military are discussed. These consequences of a closer cooperative relationship are outlined for vocational education: financial support, updating of technological capacity, increased sensitivity to military training requirements, and interchange of instructional methodologies. Disadvantages discussed are perceived engagement of public education in quasi-military training, less military control, and diversion of planning resources. (YLB)

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MILITARY TRAINING: POTENTIAL ROLES FOR VOCATIONAL EDUCATION

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TABLE OF CONTENTS

	Page
FOREWORD.	v
EXECUTIVE SUMMARY	vii
INTRODUCTION.	1
BACKGROUND.	2
Vocational Education Students.	2
Military Issues.	4
VOCATIONAL EDUCATION ROLES.	7
Enlarge the Percentage of Seventeen to Twenty-one Year-Olds Who are Enlistable	7
Increase Occupational Knowledge Concerning A Military Career	8
Develop Lateral Entry Programs	9
Provide Surge Training Capacity.	9
Assist in Reservist Training	10
Provide Postenlistment Services and Training	10
Civil Service Personnel Training	11
IMPLICATIONS.	11
Consequences	12
Implementation Issues.	13
SUMMARY	14
REFERENCES.	15

FOREWORD

During the months ahead Congress will be examining the legislation governing vocational education. This paper is intended to inform those involved in that process of some potential roles vocational education could play regarding military training. It is the second in a series of policy information papers which will be developed by the National Center for Research in Vocational Education during the coming months.

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Robert E. Taylor
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EXECUTIVE SUMMARY

According to the current Reagan Administation budget plan, a major effort will be directed toward the buildup of America's defense preparedness over the next several years. As a part of that overall effort, a substantial commitment will be made to meet the military's training responsibilities. High rates of attrition among military recruits, an exodus of skilled mid-career officers and the increasing complexity of modern weapon systems have combined to increase the need to emphasize military training.

This paper examines some potential roles vocational education could play to assist the military in meeting its training responsibilities. The first section of the paper presents data that describe the involvement of former vocational education students in the military, and also addresses three major military personnel and training issues:

- Survival of the All Volunteer Force (AVF),
- Implementation of the Total Force Management Concept,
- Demands of High Technology.

The second section describes possible roles that vocational education might play to assist the military in meeting its training requirements:

- Enlarging the percentage of seventeen to twenty-one year-olds who are enlistable,
- Increasing the occupational knowledge concerning a military career,
- Developing lateral entry programs,
- Providing surge training capacity,
- Assisting in reservist training,
- Providing postenlistment services and training,
- Assisting in civil service personnel training.

The final section brings forth some of the consequences and issues related to developing a closer cooperative relationship between the military and vocational education. The discussion is based on the proposition that although a number of potentially beneficial roles could be established, a fundamental question exists as to the overall desirability of vocational education developing a closer cooperative relationship with the military. Moreover, if a

closer relationship were deemed appropriate, major issues would have to be addressed to achieve effective cooperation. In order to provide a general foundation for the desirability and implementation discussions, three general assumptions are set forth:

- o A primary role of public education is to increase the opportunities open to individuals.
- o The vocational education delivery system could be more sensitive to military needs, but major changes in the delivery system should not be made that are geared exclusively for addressing military needs.
- o While the roles vocational education could play in military training should lead to significant results, the contribution would be modest compared to the total military training responsibility.

In regard to the desirability question, it is suggested that a closer military-vocational education relationship could lead to the following consequences:

- o An updating of the technological capacity of vocational education could be achieved.
- o The vocational education system would become more sensitive to military training requirements. In the case of national mobilization this increased sensitivity could be critical.
- o A mutual benefit could be achieved by the resulting interchange of instructional methodologies.
- o A more realistic view of the nature of a military career could be provided to students.
- o A long run side-effect of closer cooperation could be a reduction in the training incompatibilities among the different military services.
- o Even at a modest level, a closer cooperative relationship could create the perception that the public school system was engaged in quasi-military training.
- o The military would not be able to maintain the same degree of control as they could if the responsibilities were being met internally.
- o If the military were to commit substantial resources, the possibility of a limited co-opting of the public education system would exist.

- In the short run, the work required to plan and institute effective efforts would divert planning resources needed in other areas.

If all or some of the potential roles which vocational education could play to assist the military were deemed beneficial, several important implementation issues would have to be addressed. Some of these issues are:

- There exists only a limited institutional history of cooperative relationships--no proven institutional channels of communication exist.
- While the military is a national institution with an established national decision-making authority, this is not the case for the locally operated, state coordinated public education system.
- In general, vocational educators have only a limited understanding of the modern military, as is the case when vocational education is viewed from the military perspective.
- Among many professional and lay members of the public educational community, it would be difficult to develop ownership for a closer cooperative relationship with the military.
- The military would have to develop efficient methods for evaluating the compatibility of vocational training programs.

There are a number of roles vocational education could play to assist the military in meeting its training responsibilities. However, due to the consequences of a closer relationship, the overall judgement regarding the desirability of this cooperation is complex, as are the implementation issues to be faced if a closer relationship is to be developed.

INTRODUCTION

According to the current Reagan Administration budget plan, more than a trillion federal dollars will be allocated to the buildup of America's defense preparedness over the next five years. This unprecedented military allocation during peacetime will test the defense industry's capacity to manufacture the required weapons, ships, and aircraft, and the military's ability to recruit and train the personnel who will operate and maintain the increasingly sophisticated equipment. As a part of this overall effort, a substantial commitment will be made to meet the military's training responsibilities. Because of the critical importance of this responsibility, over 10.5 billion dollars are planned for military training in Fiscal Year 1982 (Office of the Assistant Secretary of Defense 1981).

The purpose of this paper is to examine potential roles vocational education could play to assist the military in meeting its training responsibilities. This examination is conducted within the context of three major military personnel and training issues: survival of the All Volunteer Force (AVF), utilization of the Total Force Management concept, and the demands of high technology. The examination is limited to potential roles vocational education could play relative to military training needs; the paper does not address potential ways in which vocational education could assist national defense industries.

The discussion is divided into three sections. The background section provides descriptive data concerning the involvement of vocational education students in the military and expands upon the three major military personnel and training issues. The second section introduces possible roles that vocational education could play in assisting the military to meet its training responsibilities, and the final section discusses some of the implications of those roles for vocational education and for the military. In the final section in order to provide a foundation for the discussion of implications, three basic assumptions are set forth: (1) a primary role of public education is to increase the opportunities open to individuals, (2) the vocational education delivery system could be more sensitive to military needs, but major changes in the delivery system should not be made that are geared exclusively for addressing military needs, and (3) while the roles vocational education could play in military training should lead to significant results, the contribution would be modest compared to the total military training responsibility.

BACKGROUND

Vocational Education Students

While the remaining sections of the paper will address future roles that vocational education can play in strengthening the military, this section provides background data concerning the current involvement of vocational education students in the military. Specifically, the section addresses two issues. First, as an answer to questions about the military enlistment of vocational students, a quantitative description is provided of the number of former vocational students seeking enlistment information and the number who are currently serving in the active forces. The second set of issues revolves around questions concerning outcomes of participation. How satisfied are vocational students with their military experience? How long do they plan to remain in the military? Are vocational students' evaluations of their military experience more positive than the evaluation of students from other curriculum backgrounds?

Data reported in this section were obtained from analysis of the National Longitudinal Surveys (NLS) of Labor Market Experience, New Youth Cohort, 1979 questionnaire (Center for Human Resource Research 1981). These data include a representative sample of the civilian population aged fourteen to twenty-two in 1979 (n = 11,469) and a representative cohort of military personnel within that same age group (n = 1,217). The National Longitudinal Surveys used a self-report approach for identifying curriculum groups. For purposes of this analysis, vocational and commercial program students were combined and are hereafter referred to as vocational students. Students who indicated a college curriculum are classified as college preparatory, while those students who indicated neither college preparatory nor vocational are classified as general program students.

Enlistment

In this section information concerning enlistment is addressed by two sets of questions. The first deals with interest in joining the military and the second addresses current enlistment in the active forces.

Approximately one-third of all civilians between the ages of seventeen and twenty-two have spoken to a recruiter about military service. General program students and college preparatory students are slightly less likely than vocational students to speak to a military recruiter (33 percent, 31 percent, 35 percent respectively). These data suggest that vocational students show slightly more interest in the military as a labor market participation route than students in the other two curriculum programs.

With regard to their expressed interest in enlisting, the NLS data indicated that differences exist for males age fourteen to twenty-two among the three curriculum groups. The highest planned participation rate was for vocational education students (28.7 percent); the comparable figure for general students was 26.7 percent, while only 16.1 percent of the college preparatory students planned to enlist.

When the sample of current military enlistees was examined, the actual rates of enlistment in the military by the three curriculum groups were somewhat different than their proportions in the overall civilian population aged 17-22. The percentages of general, vocational, and college preparatory students in the active forces of the military were 56.6 percent, 25.1 percent and 18.3 percent respectively. General students were overrepresented in the military by 7.4 percent, while college preparatory and vocational education students were underrepresented by 6.6 percent and 0.8 percent respectively as compared to their distribution in the civilian population.

In summary, these data would tend to indicate that if additional efforts were directed at vocational education students, they might enlist in greater numbers due to their overall interest in the military.

Participation Outcomes

Once in the military, do former vocational students find themselves more satisfied with their military experiences than students from the other two curriculum groups? The analysis of the NLS data would tend to indicate an affirmative answer, although the results were not conclusive.

Two indicators of students' overall satisfaction with their military experience were examined--satisfaction with their current military job and satisfaction with their most recent enlistment. There were no significant differences between groups when indicators of satisfaction with their current military jobs were examined. A little more than two-thirds of the respondents in each group showed a positive evaluation of their current military job. There was less than 1 percent variation between groups. Differences were noted, however, when respondents' satisfaction with their most recent enlistment was examined. Sixty percent of former vocational and college preparatory students were satisfied or very satisfied with their most recent enlistment, while only 55 percent of general students reported a positive evaluation.

Compared to the above noted indicators, perhaps a more meaningful measure of commitment for the military is the mean number of years that current enlistees plan to serve before leaving the military. Analysis by sex and by race showed that of the three groups, vocational students planned to serve the longest

enlistments (6.8 years, compared to 6.3 years for college preparatory and 6.4 years for general students). Moreover, female vocational students planned to serve the longest of all the females (7.4 years, compared to 6.5 and 6.9 for college preparatory and general curriculum females), and white former vocational students planned to serve the longest enlistments of all white enlistees (7.0 years versus 5.7 and 6.1 respectively). On the other hand, black enlistees showed just the opposite tendencies, with the longest planned enlistments (8.4 years) being for college preparatory students, compared to 5.9 years for former vocational students.

The above discussion serves to describe the current involvement of former vocational students in the military. The following discussion provides additional background information through an examination of three major military personnel and training issues. These issues are particularly important since they provide the context for discussing the potential roles vocational education might play to assist the military.

Military Issues

Survival of the All Volunteer Force (AVF)

The United States has used the AVF as the means of providing personnel for the military since 1973. Although there have been a number of drawbacks, the first seven years of the volunteer force have generally been considered successful. For the most part, the military services have been close to meeting their recruiting goals. Despite some limitations in this policy, it is expected that the AVF concept will continue at least for the next few years (Cooper 1981).

The past success of the AVF was due, in part, to certain general economic conditions and demographic characteristics: the high unemployment in the early 1970s among youth of military age; an increasing "pool" of youth between seventeen to twenty-one years of age; and increases in military pay, particularly for new recruits, that exceeded pay increases in the civilian sector. Recently, several considerations have increased the military's interest in efforts that will ensure the future viability of the AVF concept.

Although the military services have, in general, been able to meet their recruiting goals, the quality of many of the recruits, particularly those joining the army, has become a matter of concern. One measure of quality, percentage of high school graduates among enlistees, showed an aggregate decrease for all services between 1979 and 1980. The decrease was most apparent for army enlistees. This is significant because research has

shown that historically non-high school graduates are twice as likely to fail to complete their first enlistment as are graduates (West 1981). An additional quality measure is the data obtained on the Armed Forces Qualification Test (AFQT). The AFQT measures both verbal and quantitative aptitude. Results from Fiscal Year 1980 showed that 52 percent of the individuals enlisting in the army scored below the thirty-first percentile on the AFQT. Due to Congressional concern about the mental group distribution of recruits, recruit quality constraints have been written into the 1981 Department of Defense (DOD) Authorization Act. In addition to quality issues, the military is also concerned about the racial and socioeconomic makeup of the AVF. Middle class whites are now underrepresented in the military, while blacks and economically disadvantaged whites are overrepresented.

Demographic trends will heighten the problems just described. One important trend is that there will be fewer (than now) eighteen and twenty-one year-olds until about 1995 (Lewis and Russell 1980). This means that fewer males of prime recruiting age will be available at a time when Administration plans call for increasing the number of personnel in the military. Demographic trends also suggest that the mix of ethnic groups within the population will undergo change during the decade due to birth rate differences among population groups. Thus, representativeness (i.e., racial composition) in the enlisted force is likely to increase as an issue.

Military planners have used or considered using a variety of strategies to improve the viability of the AVF. Some of these strategies which hold particular interest for vocational education include the following: lateral entry of older individuals who already have some skills needed by the military, substitution of civilians for military personnel in non-combat jobs, substitution of capital for labor--particularly in the support establishment, and improvements in the educational entitlements for enlisted personnel, e.g., a new G.I. Bill.

Utilization of the Total Force Management Concept

The elimination of peacetime conscription was based on the understanding that American military capabilities would be maintained through the operation of a Total Force Management concept that effectively integrated the active military force and reserve forces (West 1981). It was anticipated that the AVF would not be able to secure sufficient personnel to sustain the pre-Vietnam force structure. It was assumed that reservists would serve as the primary means for augmenting active forces in a national emergency. Such a view presumed the reserves' ability to provide both combat-ready units and individuals on short notice. With the end of the draft, however, the flow of personnel into the reserves

also declined. Since 1973, active force levels have fallen by 228,000, the Selected (active) Reserve by 112,000, and the Individual Ready (inactive) Reserve by nearly 800,000 (West 1981). This problem is magnified by an exodus of skilled mid-career officers and an increase in military personnel requirements, particularly for mid-career officers and skilled technicians (West 1981).

In this regard, two key issues face military planners:

1. How can the army build and maintain reserve units (including State National Guards), and how can it obtain the number of personnel required in the Individual Ready Reserve?

2. How can the army effectively respond to the rapid increase in training requirements in the months immediately after a national mobilization (surge requirements), i.e., how can the army train these new personnel while simultaneously manning nontraining units with experienced personnel?

In addition to these concerns, the Department of Defense is faced with other related concerns. These have to do with interrelationships among active duty forces, reserve military forces, and civilian personnel employed directly (Civil Service), or indirectly (contractor personnel) by the military. Such concerns are exacerbated during times of military expansion because the military may find that it is competing against itself for personnel. This occurs when personnel move from the active duty forces into the reserves; when defense industries hire skilled individuals who might otherwise have enlisted; and when the military chooses to have civilians perform major maintenance and overhaul tasks that tend to attract people who might otherwise have joined, or stayed in, the military. So in times of military expansion the Department of Defense is faced with wisely allocating personnel resources among active duty forces, reserve forces, and civilian personnel hired by the military, and/or attempting to enlist segments of the population that require an increased amount of training, for example enlistees deficient in the basic skills. To the extent that the educational system can increase the supply pool from which skilled personnel can be drawn or developed, the latter alternative is made easier.

Utilization of High Technology

Military weaponry and equipment are becoming increasingly sophisticated. This has implications for the ability level and the number of personnel required to operate and maintain the weapons systems. Contrary to what may seem a logical conclusion, more not fewer, personnel are required for many of the new

systems. For example, a 1964 diesel submarine required 81 personnel, and the technical crew training required was approximately 1,625 personweeks. Today's nuclear class attack submarine requires 127 personnel and 5,000 personweeks of training, and a ballistic missile submarine requires 286 personnel and 6,500 personweeks of training per crew (two crews of 143 personnel). In other cases, such as the F-15 fighter aircraft, equipment failure must be analyzed by computer, so qualified personnel are required to operate and maintain the diagnostic equipment, as well as the aircraft itself (Spinney 1980).

The training for personnel is not only sophisticated and lengthy, but also, as one might expect, costly. In Fiscal Year 1981 dollars, the cost of replacing a navy missile technician who has completed three years of service is estimated to be $57,519; a sonar technician, $54,377; and a fire control technician (ballistic missile fire control), $63,181 (Griffin 1981).

In general, armed forces occupational trend data indicate that the percentage of the force in low skilled occupations has been decreasing, while the percentage of technical occupations such as electronics, has been increasing (Binkin and Kyriakopoulos 1979). As weapons systems have increased in complexity, so too have the required reading ability levels of the technical manuals which accompany them. In summary, technological developments require an increased number of personnel and, more than ever before, personnel who possess high basic skill levels and substantial technical training.

VOCATIONAL EDUCATION ROLES

Today the military must recruit, train, and retain an increased number of qualified personnel for both the active and reserve forces. Any assistance rendered by vocational education in this regard would likely be welcomed. In general, vocational education could assist the military training effort by: being sensitive to preenlistment needs, conducting occupational training during enlistment, and providing postenlistment (transition) services and training. This section expands those general areas by suggesting specific roles that vocational education could play to assist the military in meeting its training requirements.

Enlarge the Percentage of Seventeen to Twenty-One Year-Olds Who Are Enlistable

According to a 1977 Congressional Budget Office report, an estimated 42 percent of males, aged seventeen to twenty-one, were not qualified for military service due to physical and mental reasons (Congressional Budget Office 1977). With the 1981 DOD Authorization Act setting new limits on the percentage of recruits

that can be drawn from the lower mental ability categories and from the non-high school graduate category, actions that increase the percentage of enlistable seventeen to twenty-one year-olds are beneficial to the military. This issue will be particularly important in the coming years due to the decline in the absolute number of individuals in that age group.

It is uncertain whether vocational education could have a significant effect on increasing the number of enlistable seventeen to twenty-one year-olds in terms of improved AFQT scores or reduced dropout percentages. It is reasonable, however, to assume that students coming out of substantive vocational education programs would be particularly valuable in the technically oriented military. In this regard, a viable policy question would be--should individuals who complete a substantive (some criteria would be required) vocational program be classified as enlistable, even if they have low AFQT scores?

Another slightly different need exists for programs that would upgrade the qualifications of otherwise acceptable enlistees in the seventeen to twenty-one age group so they can receive training in a military occupation speciality. Such a need has already been established as witnessed by the navy's JOBS (Job Oriented Basic Skills) programs. These programs are intended to improve the basic knowledge and skills of personnel who are eligible to enter the navy but who are ineligible, because of insufficiently high aptitude scores, to enter selected class "A" navy schools (e.g., propulsion engineering, electrical/electronics, and administrative/clerical).

Increase Occupational Knowledge Concerning A Military Career

New types of linkages could be formed between the military and vocational education to provide students a more comprehensive understanding of the nature of a military career. In regard to existing vocational efforts, the military could play, for example, a more active role in occupational guidance. This could be achieved by such efforts as the joint development of guidance modules that acquaint vocational educators with military skill training programs and requirements. An additional approach, in those states that have substantial career exploration efforts, would be to focus more emphasis on exposing students to military careers. Another method to increase student awareness of military occupational opportunities would be to expand cooperative education programs to military installations.

In addition to developing linkages through joint efforts regarding existing types of vocational programs, new varieties of programs could also be developed. One such possibility is to design variations of the Militia Careers Program being tested at

four secondary vocational-technical schools in Pennsylvania (Vocational Education Reporter 1981). In that program, qualified high school students enroll in vocational education and in the Army Reserve or Pennsylvania National Guard. In their senior year the students enlist in the guard or reserves, taking the grade of Private E-2, and are paid for their service in the military unit. At the public technical schools they are trained in one of the vocational-technical programs that prepare skilled workers in occupations in demand by the military (e.g, medical specialist, sheet metal worker, or welder). The high school vocational courses are certified as paralleling or exceeding army training levels in the same skill areas.

Develop Lateral Entry Programs

Lateral entry refers to the practice of allowing individuals to enter the military at levels above the lowest pay grade. Vocational education and the military could work together to develop lateral entry programs for individuals who have completed military-relevant vocational education programs. Such programs would assist the military in meeting its skilled personnel needs, as well as in making the military more attractive as a primary employer. At present, vocational education efforts exist in some states that could be used as a basis for developing for such lateral entry programs. The Des Moines (Iowa) Technical High School, for example, offers FAA registered programs in aviation and airframe and power plant mechanics. At present, about one-third of the students graduating from this aviation program join the military right after high school (Vocational Education Reporter 1981).

Provide Surge Training Capacity

On a regular basis, vocational education instructors could be used for teaching selected military courses so that military personnel could be released for other duties. Perhaps more importantly, vocational instructors could be used on an "on call" basis to assist the military during surge training periods which could occur in peacetime, or during a period of mobilization. During mobilization, vocational education could provide not only the instructors but also the facilities for training. Models for such efforts already exist; the navy, for example, is presently contracting with four public technical schools to offer navy courses (College of Lake County, Meredian Junior College, San Diego Community College and State Technical Institute at Memphis).

The shortage of skilled noncommissioned officers and mid-career officers is probably the greatest problem facing the military today but the need to increase the capacity to respond to rapid increases in training demands could supplant it in the near

future. Because of fluctations in numbers of trainees, backlogs do develop at military training facilities. This backlog problem could be critical in the event of a national mobilization. By identifying instructors who would conduct training during a period of mobilization, and by making provisions for periodic instructor update training and state-of-the-art equipment, a surge training capacity could be established.

Assist in Reservist Training

While military reserve forces are critical in the Total Force Management concept, they are dispersed throughout the United States, and often are not near military skill-training facilities. This makes it difficult to keep the skills of personnel sharpened and relevant. The part-time nature of reserve forces also does not allow time for reservists to receive comprehensive training. Vocational education programs could help the military meet the individual, specialized skill training requirements of these units. This is already done on a very limited basis. Army regulations permit Army Reserve schools to contract with civilian training institutions to provide training in selected military occupational specialities (MOS). This is only authorized, however, when the Army Reserve school lacks the capacity to provide the training or when regular army schools do not have training slots available. This concept could be expanded by reducing some of the restrictions, as well as by including not only military specialities, but also pre-specialty training in mathematics and reading. Vocational educators might also assist by providing services directed towards improving the overall training capacity of reserve units. Training is stressed at the unit and individual level, but many officers and senior enlisted personnel possess limited training skills. In this case the training of military instructors might be a viable vocational education role.

Provide Postenlistment Services and Training

If substantial types of linkages were developed, vocational programs could be designed that would help bridge the transition from military to civilian life. For military personnel who possessed skills that were readily transferable such as electronics or construction, only limited skill training would be needed and the program would concentrate instead on vocational counseling regarding employment opportunities. Other skills, such as those possessed by infantrymen, are not so readily transferable. In those cases, more comprehensive programs would be required involving occupational training, as well as transition support services. Existing postsecondary institutions are in a particularly good position to fulfill this role although a closer relationship with the military could obviously improve responsiveness.

Civil Service Personnel Training

The civil personnel training responsibilities are an important concern to the military. This is especially true today because more civilian personnel are currently being used in lieu of active military in the military establishment support structure (Millett 1981). Vocational education programs could be used to improve the skills of civilian employees at military bases and government offices. The Oklahoma State Department of Vocational-Technical Education is already engaged in such an effort in cooperation with Tinker Air Force Base. In that case, civilian employees are sent to the vocational training center as a first assignment. While there, they receive preparatory or upgrading training in areas such as typing, sheet metal working, welding, machine work, and others.

IMPLICATIONS

In the previous section, several roles were outlined that vocational education could play to assist the military in meeting its responsibilities. The purpose of this section is to suggest some of the consequences and issues relating to a closer cooperative relationship between the vocational education and military establishments. Although a number of potentially beneficial roles could be established, a fundamental question exists as to the overall desirability of vocational education assisting the military in meeting its training responsibilities. In addition, if a closer relationship were deemed appropriate, major issues would have to be addressed in order to achieve effective cooperation.

Because of the nature of the topic, it appears useful to set forth basic assumptions upon which the desirability and implementation discussions can be based. These assumptions form a general foundation for the specific consequence and issue statements. The assumptions are as follows:

- A primary role of public education is to increase the opportunities open to individuals.
- The vocational education delivery system could be more sensitive to military needs, but major changes in the delivery system should not be made that are geared exclusively for addressing military needs.
- While the roles vocational education could play in military training should lead to significant results, the contribution would be modest compared to the total military training responsibility.

Consequences

Generally, the most obvious benefit to vocational education of a closer cooperative relationship with the military would be additional dollar support; the military's obvious benefit would be assistance in meeting its increasingly demanding training responsibility. However, in the long run, particularly from the vocational education perspective, the obvious may not be the most important consequence. If a long-term as well as a short-term view is adopted, it is suggested that a closer military-vocational education relationship could lead to the following consequences:

- Because the military operates at the state-of-the-art level in many areas, an updating of the technological capacity of vocational education could be achieved. The updating could occur in regard to equipment, training materials, and the technological upgrading of vocational instructors.

- The vocational education delivery system would become more sensitive to military training requirements. In the case of a national mobilization, this increased sensitivity could prove to be critical.

- A mutual benefit could be achieved by the resulting interchange of instructional methodologies. In many areas the military has led the public education system in the adoption of new teaching strategies. On the other hand, due to rotation of assignments, many individual military instructors have only limited teaching skills.

- A more realistic view could be provided to students of the nature of a military career. A more informed decision would not only benefit the individual student, but could also benefit the military since an informed decision could lead to greater job satisfaction and thus higher retention rates.

- In the short run the need for the military to evaluate vocational institutions regarding compatibility and acceptability of programs would constitute a problem, but in the long run that exercise could produce an impetus for the military to reduce incompatibilities among the different military services.

- Even at a modest level, a closer cooperative relationship could create the perception that the public school system was engaged in quasi-military training.

- The military would not be able to maintain the same degree of control as they could if the responsibilities were being met internally. Hence, in some cases the military would not receive that which was purchased. In times of economic growth some educational institutions might choose to direct their attention to more traditional clients.

- If the military were to commit substantial resources to external training, the possibility of a limited co-opting of the public education system would exist.

- In the short run, the work required to plan and institute effective efforts would divert planning resources much needed in other areas. Particularly in the case of vocational education, this "siphoning off" of resources could adversely affect other efforts.

Implementation Issues

If all or some of the potential roles that vocational education could play to assist the military were deemed beneficial, several important implementation issues would require addressing. Some of these issues are:

- There exists only a limited institutional history of cooperative relationships upon which to base future efforts. No proven institutional channels of communication exist.

- While the military is a national institution with an established national decision-making authority, this is not the case for the locally operated, state coordinated public education system. A substantial mismatch exists relative to the two decision-making structures. The question could be posed--with whom would the military talk if it wished to move comprehensively toward a closer cooperative relationship with vocational education?

- At the individual level, a knowledge gap exists. In general, vocational educators have only a limited understanding of the modern military, as is the case when vocational education is viewed from the military perspective. Misconceptions still exist--some military personnel feel that civilians lack the specialization to teach military technical education and from the vocational perspective, it is felt that the military does not employ vocational graduates in tasks that challenge their training.

- Among many professional and lay members of the public educational community it will be difficult to develop ownership for a closer cooperative relationship with the military. A number of different forces drive this problem, including the notion that the effort is being directed at developing "trained personnel for export"; that is, military people do not tend to stay in a given community.

- How could the military efficiently evaluate the compatibility of existing vocational education programs? More importantly, how could the compatibility be increased? This problem is magnified by the enormous diversity among vocational education programs and by the lack of agreement among the various military services as to the appropriate coverage in a given competency area.

SUMMARY

There are a number of specific roles vocational education could play to assist the military in meeting its training responsibilities. The assistance benefit to the military is relatively clear, as is the financial benefit to the vocational establishment. However, due to the possible additional positive and negative consequences of a closer relationship, the overall judgement regarding the desirability of this cooperation is complex, as are the implementation issues to be faced if a closer relationship is to be developed.

REFERENCES

Binkin, M., and Kyriakopoulos, I. Youth or Experience? Manning the Modern Military. Washington, DC: Brookings Institution, 1979.

Center for Human Resource Research. The National Longitudinal Surveys Handbook. Columbus, OH: College of Administrative Science, The Ohio State University, February 1981.

Congressional Budget Office. The Cost of Defense Manpower: Issues for 1977. Washington, DC: The Congressional Budget Office, 1977.

Cooper, Richard V. L. "AVF versus Draft: Where Do We Go From Here?" In Manning the American Armed Forces: Problems and Prospects. Edited by A. R. Millet, and A. F. Trupp, Columbus, OH: The Mershon Center, The Ohio State University, May 1981.

Griffin, P. "A First-Term Attrition Severity Index for U. S. Navy Ratings." Master's Thesis, U.S. Naval Postgraduate School, Monterey, CA: 1981.

Lewis, Morgan V., and Russell, Jill F. Trends, Events, and Issues Likely to Influence Vocational Education in the 1980s. Columbus, OH: The National Center for Research in Vocational Education, The Ohio State University, April 1980.

Millett, A. A comment obtained during an interview. Columbus, OH: The Mershon Center, The Ohio State University, August, 1981.

Office of the Assistant Secretary of Defense (Manpower, Reserve Affairs and Logistics). Military Manpower Training Report for FY 1982. Washington, DC: Department of Defense, March, 1981.

Spinney, Franklin C. Defense Facts of Life. Unpublished report. December 1980.

Vocational Education Reporter. Arlington, VA: American Vocational Association, July 1981.

West, Michael. "Military Manpower Problems: A Committee Perspective." In Manning the American Armed Forces: Problems and Projects, Edited by A. R. Millett, and A. F. Trupp, Columbus, OH: The Mershon Center, The Ohio State University, May 1981.